

***LineUp With Math™* Alignment**
Colorado Model Content Standards and Benchmarks
Amended 9-15-05

Standard 1:

Students develop number sense and use numbers and number relationships in problem-solving situations and communicate the reasoning used in solving these problems.

Benchmarks

4. use the relationships among fractions, decimals, and percents, include the concepts of ratio and proportion, in problem-solving situations;

***LineUp With Math™* Activities**

--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.

--Use percent relationships to resolve distance, rate, time conflicts in air traffic control.

Standard 2:

Students use algebraic methods to explore, model, and describe patterns and functions involving numbers, shapes, data, and graphs in problem-solving situations and communicate the reasoning used in solving these problems.

Benchmarks

3. analyze functional relationships to explain how a change in one quantity results in a change in another (for example, how the area of a circle changes as the radius increases, or how a person's height changes over time);

***LineUp With Math™* Activities**

--Identify and resolve distance, rate, time conflicts in air traffic control problems by varying plane speeds or changing plane routes.

Standard 4:

Students use geometric concepts, properties, and relationships in problem-solving situations and communicate the reasoning used in solving these problems.

Benchmarks

3. apply the concepts of ratio, proportion, and similarity in problem-solving situations;

***LineUp With Math™* Activities**

--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.

Standard 5:

Students use a variety of tools and techniques to measure, apply the results in problem-solving situations, and communicate the reasoning used in solving these problems.

Benchmarks

1. estimate, use, and describe measures of distance, perimeter, area, volume, capacity, weight, mass, and angle comparison;

***LineUp With Math™* Activities**

--Use an interactive simulator plus calculation worksheets to model and resolve air traffic control conflicts.

Standard 6:

Students link concepts and procedures as they develop and use computational techniques, including estimation, mental arithmetic, paper-and-pencil, calculators, and computers, in problem-solving situations and communicate the reasoning used in solving these problems.

Benchmarks

1. use models to explain how ratios, proportions, and percents can be used to solve real-world problems;

***LineUp With Math™* Activities**

--Use an interactive simulator plus calculation worksheets to apply proportional reasoning to identify and resolve distance, rate, time conflicts in air traffic control.

--Use percent relationships to resolve distance, rate, time conflicts in air traffic control.

3. develop, apply, and explain a variety of different estimation strategies in problem-solving situations, and explain why an estimate may be acceptable in place of an exact answer;

--Explore and apply a variety of strategies to optimize the solution of air traffic control conflicts.

--Predict and resolve aircraft conflicts and explain results of mathematical calculations and simulations.